Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims:

1. (Currently Amended) An apparatus for dynamically controlling the delivery of data over a network, the apparatus comprising:

a network interface circuit with at least one communication port adapted to be coupled to a network by a plurality of communication links;

an encoder, communicatively coupled to the network interface circuit, the encoder adapted to receive data from a source and to encode the data with a selectable level of compression; and

wherein the network interface circuit includes a control mechanism that provides a signal to select the level of compression for the encoder when at least one of the plurality of communication links becomes unusable.~~based on at least one parameter; and~~

~~wherein the network interface circuit is coupled to a plurality of communication sources;~~

2. (Original) The apparatus of claim 1, wherein the encoder is adapted to receive data from at least one of a video source, and an audio source.

3. (Original) The apparatus of claim 1, wherein the network interface circuit further is adapted to receive at least one of high-speed data and telephony data.

4. (Original) The apparatus of claim 1, wherein the encoder comprises an encoder that is adapted to receive input from a plurality of data sources.

5. (Original) The apparatus of claim 1, wherein the network interface circuit comprises an inverse multiplexer (IMUX) with a plurality of network ports, each network port adapted to be coupled to a selected communication link of the network.

6. (Original) The apparatus of claim 5, wherein each port is adapted to be coupled to at least one of a T1 and an E1 communication link.

7. (Original) The apparatus of claim 1, and further comprising a bus, communicatively coupling the network interface circuit and the encoder, the bus being adapted to carry commands from the control mechanism of the network interface circuit to the encoder.

8. (Original) The apparatus of claim 1, wherein the control mechanism generates signals to control the rate of the encoder based on at least one of available bandwidth, buffer levels, network congestion, cell loss and signals over an end-to-end channel of the network.

9. (Currently Amended) The apparatus of claim 1, wherein the control mechanism adjusts data rates for a plurality of sources pro rata based on at least one of when at least one of the plurality of communication links become unusable, available bandwidth, buffer levels, network congestion, cell loss and signals over an end-to-end channel of the network ~~the at least one parameter~~.

10. (Original) The apparatus of claim 1, wherein the control mechanism selectively and independently adjusts data rates for a plurality sources.

11. (Original) The apparatus of claim 1, wherein the control mechanism adjusts the data rate of the encoder to control the level of compression.

12. (Currently Amended) The apparatus of claim 1, wherein the control mechanism further adjusts other parameters of the encoder based on at least one of when at least one of the plurality of communication links becomes unusable, available bandwidth, buffer levels, network congestion, cell loss and signals over an end-to-end channel of the network ~~the at least one parameter~~.

13. (Currently Amended) A method for reducing a loss in transmission quality with changing network conditions, the method comprising:

receiving data ~~form~~ from a source;

encoding the data with a first rate;

detecting a loss of at least one of a plurality of communication links between an access device of a communication network and a network ~~a changed non-congestion or non-cell loss based condition~~; and

adjusting the level of encoding to respond to the loss of the at least one of a plurality of communication links ~~changed condition~~.

14. (Original) The method of claim 13, wherein receiving data from a source comprises receiving video data from a video source.

15. (Original) The method of claim 13, wherein receiving data from a source comprises receiving data from a plurality of sources.

16. (Original) The method of claim 13, wherein encoding the data comprises encoding the data with an MPEG encoder.

17. (Canceled)

18. (Canceled)

19. (Currently Amended) The method of claim 13, ~~wherein detecting a changed non-congestion or non-cell loss based condition comprises~~further comprising: monitoring, cyclic redundancy check at the ATM layer, and cyclic redundancy check at the MPEG layer.

20. (Currently Amended) The method of claim 13, ~~wherein detecting a changed non-congestion or non-cell loss based condition~~ further comprising: ~~comprises~~ monitoring buffer conditions in an access device of a communication network.

21. (Currently Amended) The method of claim 13, ~~wherein detecting a changed non-congestion or non-cell loss based condition comprises~~further comprising: monitoring data rates from a plurality of data sources.

22. (Canceled)

23. (Canceled)

24. (Original) A method for controlling delivery of video over an asynchronous transfer mode (ATM) network, the method comprising:

establishing a first encoding level for a video encoder;

receiving video data from at least one video source;

encoding the video data with the first encoding level;

transmitting the encoded video data over a plurality of communication lines to the ATM network via an inverse multiplexer; and

when at least one of the plurality of communication lines becomes unusable, modifying the encoding level to encode with a second, different rate.

25. (Original) The method of claim 24, wherein establishing a first encoding level comprises establishing a data rate for an MPEG encoder.

26. (Original) The method of claim 24, wherein receiving video data comprises receiving video data from a plurality of video sources.

27. (Original) The method of claim 24, wherein transmitting the encoded video data over a plurality of communication lines comprises transmitting the encoded video data over a plurality of T1 or E1 lines.

28. (Original) The method of claim 24, wherein modifying the encoding level comprises reducing the data rate.

29. (Currently Amended) A method for controlling delivery of video over an asynchronous transfer mode (ATM) network, the method comprising:

monitoring a plurality of connections to the ATM network used to transmit video data from at least one source;

when synchronizing the plurality of connections to the ATM network:

calculating an available bandwidth for delivering the video data; ~~and~~

establishing a data rate for a video encoder used to deliver the video data based on the available bandwidth; and

wherein when at least one of the plurality of connections becomes unusable:

calculating an available bandwidth for delivering the video data; and

establishing a second, different data rate for a video encoder used to deliver the video data based on the currently available bandwidth.

30. (Canceled)

31. (Original) The method of claim 29, wherein calculating the available bandwidth comprises:

determining physical bandwidth; and

adjusting bandwidth for sources not processed by the video encoder.

32. (Currently Amended) An access device, comprising:

a network interface circuit having a plurality of network ports adapted to couple to a plurality of communication lines for an asynchronous transfer mode (ATM) network, a data port adapted to couple to at least one data source, and at least one telephony port adapted to couple to at least one telephony line;

an encoder, communicatively coupled to the network interface circuit, that is adapted to receive data from at least one audio/video source; and

a control mechanism, communicatively coupled with the network interface circuit and the encoder, the control mechanism producing at least one control signal to control the rate of the encoder based on ~~a condition of the ATM network~~ when one of the plurality of connections to the ATM network is unusable.

33. (Original) The access device of claim 32, wherein the network interface circuit, the encoder and the control mechanism are located in a common housing.

34. (Original) The access device of claim 32, wherein the encoder and the control mechanism are communicatively coupled over a bus.

35. (Original) The access device of claim 32, wherein the encoder comprises an MPEG encoder.

36. (Original) The access device of claim 32, wherein the network interface circuit includes an inverse multiplexer circuit.

37. (Original) The access device of claim 36, wherein the control mechanism reduces the rate of the encoder when one of the plurality of connections to the ATM network is unusable.

38. (Original) An access device, comprising:

an inverse multiplexer having a plurality of network ports adapted to couple to a plurality of communication lines for an asynchronous transfer mode (ATM) network;

an encoder, communicatively coupled to the inverse multiplexer, that is adapted to receive data from at least one audio/video source;

a control mechanism, communicatively coupled with the inverse multiplexer and the encoder, the control mechanism producing at least one control signal to control the rate of the encoder based on a condition of the ATM network; and

wherein the encoder, the control mechanism, and the inverse multiplexer are located in a common housing.

39. (Original) The access device of claim 38, wherein the inverse multiplexer includes a data port adapted to couple to at least one data source, and at least one telephony port adapted to couple to at least one telephony line.

40. (Original) The access device of claim 38, wherein the encoder and the control mechanism are communicatively coupled over a bus.

41. (Original) The access device of claim 38, wherein the encoder comprises an MPEG encoder.

42. (Original) The access device of claim 38, wherein the control mechanism reduces the rate of the encoder when one of the plurality of connections to the ATM network is unusable.

43. (Currently Amended) A method for reducing loss of transmission quality with changing network conditions, the method comprising:

receiving data ~~form~~from a source;

encoding the data with a first rate;

~~monitoring a non-congestion or non-cell loss based condition~~ monitoring a plurality of connections to a network;

~~when the non-congestion or non-cell loss based condition exceeds a threshold~~ wherein when at least one of the plurality of connections becomes unusable, adjusting the level of encoding to respond to the changed condition.

44. (Original) The method of claim 43, wherein adjusting the level comprises adjusting the level until the quality of the transmission is acceptable.

45. (Currently Amended) The method of claim 43, ~~wherein monitoring a non-congestion or non-cell loss based condition comprises~~further comprising: monitoring at least one of a buffer level, cyclic redundancy check at the ATM layer, and cyclic redundancy check at the MPEG layer.

46. (Canceled)

47. (Canceled)

48. (Currently Amended) A distance learning system, comprising:

a plurality of access devices coupled together over a transport network;

a plurality of data sources and sinks, each data source and each data sink coupled to one of the access devices; and

wherein each access device comprises:

a network interface circuit with at least one communication port adapted to be coupled to the transport network;

an encoder, communicatively coupled to the network interface circuit, the encoder adapted to receive data from a source and to encode the data with a selectable level of compression; and

wherein the network interface circuit includes a control mechanism that provides a signal to select the level of compression for the encoder based on ~~at least one non-congestion or non-cell loss based parameter including available bandwidth, buffer levels, and signals over an end-to-end~~

~~channel of the network~~ a loss of at least one of a plurality of communication links between the plurality of access devices and the transport network.

49. (Original) The distance learning system of claim 48, wherein the plurality of data sources and data sinks includes one or more of a telephone, a monitor, a camera, a computer, and a computer network.

50. (Previously presented) An apparatus for dynamically controlling the delivery of data over a network, the apparatus comprising:

a network interface circuit with at least one communication port adapted to be coupled to a network;

an encoder, communicatively coupled to the network interface circuit, the encoder adapted to receive data from a source and to encode the data with a selectable level of compression; and

wherein the network interface circuit includes a control mechanism that provides a signal to select the level of compression for the encoder based on one parameter;

wherein the network interface circuit comprises an inverse multiplexer (IMUX) with a plurality of network ports, each network port adapted to be coupled to a selected communication link of the network.

51. (Previously presented) The apparatus of claim 50, wherein the encoder is adapted to receive data from at least one of a video source, and an audio source.

52. (Previously presented) The apparatus of claim 50, wherein the network interface circuit further is adapted to receive at least one of high-speed data and telephony data.

53. (Previously presented) The apparatus of claim 50, wherein the encoder comprises an encoder that is adapted to receive input from a plurality of data sources.

54. (Previously presented) The apparatus of claim 50, wherein each port is adapted to be coupled to at least one of a T1 and an E1 communication link.

55. (Previously presented) The apparatus of claim 50, and further comprising a bus, communicatively coupling the network interface circuit and the encoder, the bus being adapted to carry commands from the control mechanism of the network interface circuit to the encoder.

56. (Previously presented) The apparatus of claim 50, wherein the control mechanism generates signals to control the rate of the encoder based on at least one of available bandwidth, buffer levels and signals over an end-to-end channel of the network.

57. (Currently Amended) An apparatus for dynamically controlling the delivery of data over a network, the apparatus comprising:

a network interface circuit with at least one communication port adapted to be coupled to a network;

an encoder, communicatively coupled to the network interface circuit, the encoder adapted to receive data from a source and to encode the data with a selectable level of compression; and

wherein the network interface circuit includes a control mechanism that provides a signal to select the level of compression for the encoder based on when at least one of a plurality of connections between the network interface circuit and the network becomes unusable ~~at least one non-congestion or non-cell loss based parameter~~.

58. (Previously presented) The apparatus of claim 57, wherein the encoder is adapted to receive data from at least one of a video source, and an audio source.

59. (Previously presented) The apparatus of claim 57, wherein the network interface circuit further is adapted to receive at least one of high-speed data and telephony data.

60. (Previously presented) The apparatus of claim 57, wherein the encoder comprises an encoder that is adapted to receive input from a plurality of data sources.

61. (Previously presented) The apparatus of claim 57, wherein the network interface circuit comprises an inverse multiplexer (IMUX) with a plurality of network ports, each network port adapted to be coupled to a selected communication link of the network.

62. (Previously presented) The apparatus of claim 61, wherein each port is adapted to be coupled to at least one of a T1 and an E1 communication link.

63. (Previously presented) The apparatus of claim 57, and further comprising a bus, communicatively coupling the network interface circuit and the encoder, the bus being adapted to carry commands from the control mechanism of the network interface circuit to the encoder.

64. (Previously presented) The apparatus of claim 57, wherein the control mechanism generates signals to control the rate of the encoder based on at least one of available bandwidth, buffer levels and signals over an end-to-end channel of the network.

65. (Previously presented) The apparatus of claim 57, wherein the control mechanism adjusts data rates for a plurality of sources pro rata based on the at least one non-congestion or non-cell loss based parameter.

66. (Previously presented) The apparatus of claim 57, wherein the control mechanism selectively and independently adjusts data rates for a plurality sources.

67. (Previously presented) The apparatus of claim 57, wherein the control mechanism adjusts the data rate of the encoder to control the level of compression.

68. (Previously presented) The apparatus of claim 57, wherein the control mechanism further adjusts other parameters of the encoder based on the at least one non-congestion or non-cell loss based parameter

69. (Previously presented) The apparatus of claim 57, wherein detecting a changed condition comprises monitoring at least one of available bandwidth, buffer levels and signals over an end-to-end channel of the network.